



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,822	10/30/2003	Paul C. Allen	107262.184US2 and 006256	1260
32588	7590	01/29/2007	EXAMINER	
APPLIED MATERIALS, INC. P. O. BOX 450A SANTA CLARA, CA 95052			THOMAS, BRANDI N	
		ART UNIT	PAPER NUMBER	
		2873		
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/29/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/698,822	ALLEN ET AL.
	Examiner	Art Unit
	Brandi N. Thomas	2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 November 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
 - 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.
- 5) Claim(s) 12-17 is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 March 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: Detailed Action.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Inagaki et al. (5890789).

Regarding claim 1, Inagaki et al. discloses, in figures 4 and 5, a multiple beam generator (15) for use in a scanning system (col. 9, lines 23-26), said generator (15) comprising: an acousto-optic deflector (AOD) (3) which during use receives a laser beam (input beam from laser diode 2) and generates deflected beam, the deflection of which is determined by an AOD control signal (col. 9, lines 39-41); a diffractive element (5) which generates an array of input beams (L_1 - L_3) from the deflected beams (col. 9, lines 40-43); and a control circuit (22) which during operation generates the AOD control signal and varies a characteristic of the first control signal to account for errors in the scanning system (col. 8, lines 3-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. (5890789) as applied to claim 1 above, and further in view of Smith, Jr. (4203672).

Regarding claim 2, Inagaki et al. discloses the claimed invention but does not specifically disclose wherein the control circuit receives a feedback signal that is a measure of a deflection error of an output beam array from a desired position, said output beam array derived from said input beam array and wherein the control circuit generates the AOD control signal to reduce the deflection error. Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54), wherein the control circuit (10) receives a feedback signal that is a measure of a deflection error of an output beam array from a desired position, said output beam array derived from said input beam array and wherein the control circuit (11) generates the AOD control signal to reduce the deflection error (col. 4, lines 51-62). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Inagaki et al. with the control circuit of Smith, Jr. for the purpose of eliminating errors (col. 4, lines 51-62).

Regarding claim 3, Inagaki et al. discloses the claimed invention but does not specifically disclose further comprising an acousto-optic modulator which receives the array of beams a separately modulates each of the received beams in accordance with a second control signal to produce an output beam array. Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54), further comprising an acousto-optic modulator (AOM) (2) which receives the array of beams a separately modulates each of the received beams in accordance with a second control signal to produce an output beam array (col. 4, lines 63-68). Therefore it would have been obvious to one having ordinary skill in the art at

the time the invention was made to combine the device of Inagaki et al. with the control circuit of Smith, Jr. for the purpose of modulating the individual laser beams (col. 4, lines 63-68)

5. Claims 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. (5890789) in view of Smith, Jr. (4203672) as applied to claim 1 above, and further in view of Allen et al. (6731320 B1).

Regarding claim 4, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein the control circuit includes a table of corrections which the control circuit uses to generate the AOD control signal. Allen et al. discloses, in figure 4, wherein the control circuit includes a table of corrections which the control circuit uses to generate the AOD control signal (col. 7, lines 29-40). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 5, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for stripe position errors associated with the scanning system. Allen et al. discloses, in figure 4, wherein said table stores corrections for stripe position errors associated with the scanning system (col. 7, lines 59-61). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 6, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for variation in beam velocity over

a scan line within the scanning system. Allen et al. discloses wherein said table stores corrections for variation in beam velocity over a scan line within the scanning system (col. 4, lines 31-34). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 7, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for facet-by-facet position error attributable to a polygon mirror in the scanning system. Allen et al. discloses wherein said table stores corrections for facet-by-facet position error attributable to a polygon mirror in the scanning system (col. 4, lines 34-36). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 8, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for intensity errors associated with the scanning system. Allen et al. discloses wherein said table stores corrections for intensity errors associated with the scanning system (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 9, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for scan-line intensity variations within the scanning system. Allen et al. discloses wherein said table stores corrections for

intensity errors associated with the scanning system (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 10, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for scan-line intensity variations within the scanning system (col. 5, lines 41-43). Allen et al. discloses wherein said table stores corrections for intensity variation from stripe deflection across a sound field within the AOM (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 11, Inagaki et al. and Smith, Jr. disclose the claimed invention but does not specifically disclose wherein said table stores corrections for intensity variation due to reflectivity variations within a polygonal scanning element that is part of the scanning system (col. 7, lines 29-40). Allen et al. discloses wherein said table stores corrections for intensity variation from stripe deflection across a sound field within the AOM (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Allowable Subject Matter

6. Claims 12-17 are allowed.

Art Unit: 2873

7. The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 12, wherein the claimed invention comprises, in claim 12, a deflection measurement circuit including a chevron pattern detector across which one of the beams of the scanned array of beams scans during operation, said chevron pattern detector generating a signal that is a measure of the location of the scanned array of beams in a direction transverse to the scan direction, said chevron pattern detector including an angled slit across which said one of the beams passes, as claimed.

Response to Arguments

8. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BNT
BNT

Brandi N Thomas
Examiner
Art Unit 2873

AH

ALICIA M. HARRINGTON
PRIMARY EXAMINER